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News Release

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**UAMS Cancer Institute Receives \$2.3 Million NIH Grant
to Study Pathogens that Lead to Burkitt Lymphoma**

LITTLE ROCK — A five-year National Institutes of Health grant over \$2.3 million will fund researchers at the University of Arkansas for Medical Sciences (UAMS) Winthrop P Rockefeller Cancer Institute studying how being infected with a gammaherpesvirus (GHV) and malaria parasite at the same time can lead to endemic Burkitt lymphoma (eBL), an aggressive cancer that mainly affects children.

Once a person is infected with a GHV, the virus remains in the body for life, remaining inactive for most people. One type of GHV, called Epstein-Barr virus (EBV), is found in nearly all cases of eBL. Endemic Burkitt lymphoma is common in Africa where EBV infection and malaria are prevalent, though little is known about how coinfection by these two pathogens leads to cancer development. This study will focus on identifying how infection with both EBV and malaria parasites can lead to cancer.

Craig Forrest, Ph.D., a professor in the College of Medicine Department of Microbiology and Immunology and member of the Winthrop P. Rockefeller Cancer Institute, will serve as principal investigator for this study, working with Jason Stumhofer, Ph.D., an associate professor also in the College of Medicine Department of Microbiology and Immunology. Forrest, who works on four additional NIH grants studying GHVs, studies how GHV infection manipulates immune responses and affects cells in ways that predispose them to become cancer. Stumhofer is an expert in *Plasmodium*, the parasite that causes malaria.

“The Winthrop P. Rockefeller Cancer Institute is proud to support researchers who are leading advances in our understanding of cancer and discovering potential new treatment options,” said Michael Birrer, M.D., Ph.D., vice chancellor of UAMS and director of the Cancer Institute. “Dr. Forrest’s five active NIH grants studying GHVs demonstrate the potential for this research to uncover new therapies and reduce the impact of these virus-associated cancers.”

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Forrest noted that endemic Burkitt lymphoma was the first GHV-associated cancer ever identified, and there is strong evidence supporting the idea that both EBV and *Plasmodium falciparum* infection are needed for the cancer to develop.

“For this particular grant, my lab team wanted to leverage our expertise in GHV infection in combination with co-investigator Dr. Jason Stumhofer’s expertise in *Plasmodium* infection to try and understand how these two completely different pathogens synergize to cause the genomic mutations present in eBL,” said Forrest.

Though the main goal is to understand how the two pathogens cause eBL, in the future, they plan to determine specific viral genes that increase DNA mutations during malaria infection, as well as which molecules in the body are activated when these two infections occur together, supporting lymphoma development.

Research like this is critical to understanding what drives GHV-related cancers and could one day pave the way for targeted treatments, ultimately reducing cancer rates.

UAMS is the state’s only health sciences university, with colleges of Medicine, Nursing, Pharmacy, Health Professions and Public Health; a graduate school; a hospital; a main campus in Little Rock; a Northwest Arkansas regional campus in Fayetteville; a statewide network of regional campuses; and seven institutes: the Winthrop P. Rockefeller Cancer Institute, Jackson T. Stephens Spine & Neurosciences Institute, Harvey & Bernice Jones Eye Institute, Psychiatric Research Institute, Donald W. Reynolds Institute on Aging, Translational Research Institute, and the Institute for Community Health Innovation. UAMS includes UAMS Health, a statewide health system that encompasses all of UAMS’ clinical enterprise. UAMS is the only adult Level 1 trauma center in the state. UAMS has 3,553 students and 1,030 medical residents and fellows, and two dental residents. It is the state’s largest public employer with about 12,000 employees, including 1,200 physicians who provide care to patients at UAMS, its regional campuses, Arkansas Children’s, the VA Medical Center and Baptist Health. Visit www.uams.edu or www.uamshealth.com. Find us on [Facebook](#), [X \(formerly Twitter\)](#), [YouTube](#) or [Instagram](#).

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